



National Weather Service

*FY 2001 4th Quarter and
FY 2002 1st Quarter Review*

February 21, 2002

Action Items

Action Item
Checklist

Milestones

Accomplishments

Resources

- Budget
- FTE's
- Infrastructure

Management
Challenges,
Issues, Problems

Compliance

EEO, MSI &
Diversity



<i>Review</i>	<i>Status</i>	<i>Action Item</i>
3rd	Completed	Arrange visit for members of the Young Women in Science Program Participants from Cheyenne, WY to Visit NOAA and other Federal Facilities in Boulder, Colorado
3rd	Completed	Brief OFA on exit interview process and use of these interviews to assess employee attrition.

Performance Measures

Met 8 out of 12 (75%) of GPRA Goals in FY 01

<i>Performance Measure</i>	<i>FY 2001 Goal</i>	<i>FY 2001 Actual</i>
Tornado Warnings-Accuracy (%)	68	67
Tornado Warnings - False Alarm Rate (%)	73	72
Tornado Warnings-Lead Time (Minutes)	13	10
Flash Flood-Warnings Accuracy	86	86
Flash Flood-Warnings Lead Time	45	46
Winter Storm-Warnings Accuracy	86	90
Winter Storm-Warnings Lead Time	13	13

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Performance Measures

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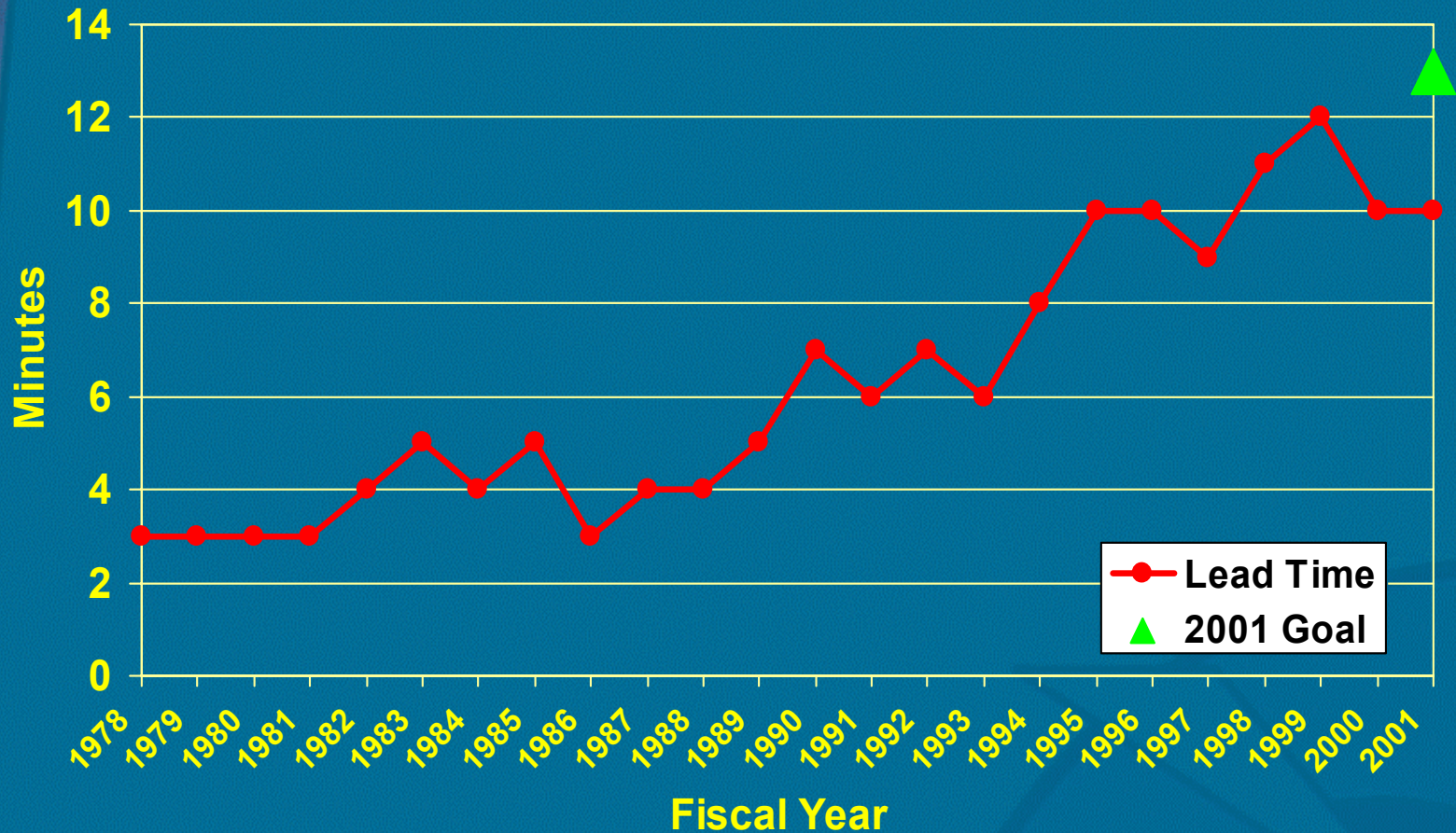
Compliance

EEO, MSI &
Diversity

<i>Performance Measure</i>	<i>FY 2001 Goal</i>	<i>FY 2001 Actual</i>
Aviation Forecasts-Accuracy	21	18
Aviation Forecasts-False Alarm Rate	51	51
U.S. Seasonal Temperature	20	20
Marine Forecasts – Accuracy	51	52
Precipitation Forecast-Accuracy of 3 Day Forecast	22	19



Performance Measures - Tornado Warnings



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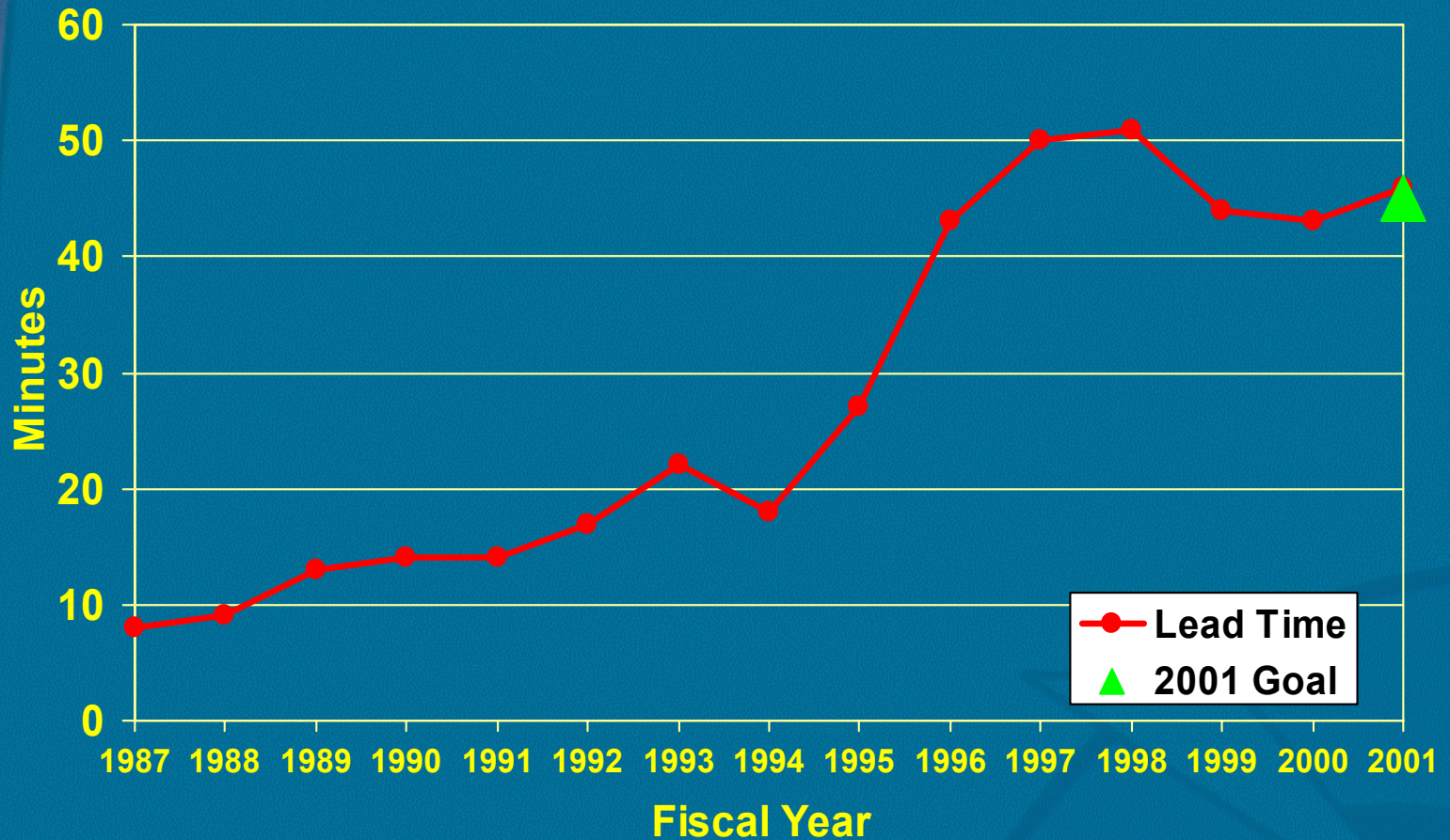
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Performance Measures – Flash Floods Warnings



2001 Goal = 45 minutes

Performance Measures

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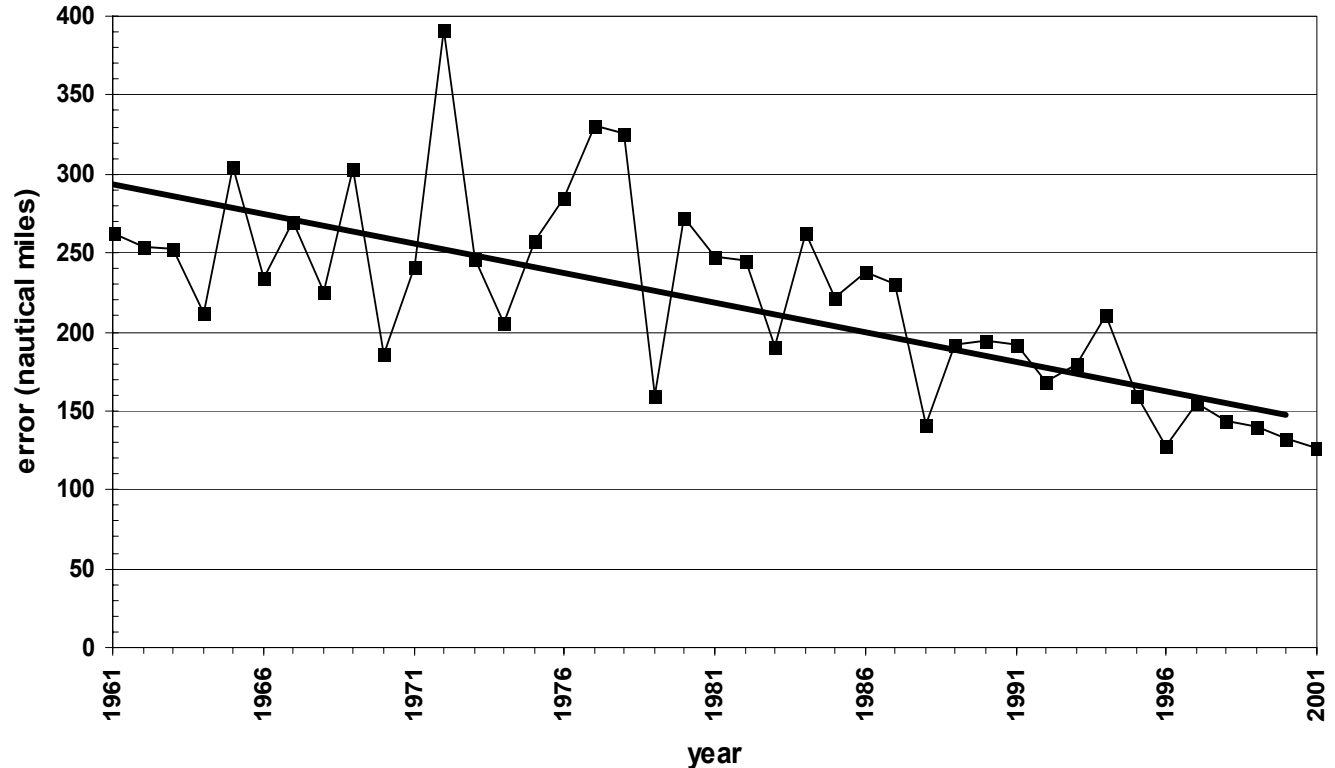
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Tropical Prediction Center Performance Measures
yearly-average official 48 hour track forecast error, Atlantic basin



FY 2001 Milestone Summary

*109 of 120 (90%) milestones completed
in FY 2001*

Deliver Better Products and Services - Highlights

- Extended public forecasts to seven days
- Issued daily 6-10 day and week 2 probabilistic outlooks 
- Prototype web-based dissemination system fire weather spot forecasts implemented in Western Region
- Prototype web-based collection system for cooperative observers tested in Central Region

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FY 2001 Milestone Summary

Deliver Better Products and Services - Highlights

- Established “Tsunami Ready” Program 
- Initiated 24 hour production of the Collaborative Convective Forecast Product 
- Implemented improvements to NWS fire weather incident response system
- Installed 2 New Data Buoys in Alaska 

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FY 2001 Milestone Summary

Deliver Better Products and Services – Highlights

- Awarded contract for improved NOAA Weather Radio voice 
- Installed 61 new NWR network transmitters
- Installed backup site for AWIPS Master Ground Station
- Awarded contract for Doppler Radar at Evansville, IN
- Implemented Advanced Hydrologic Prediction Service (AHPS) river forecast products at 135 locations in the Upper Mississippi and Ohio River Basins 

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FY 2001 Milestone Summary

Capitalize on Scientific & Technological Advances - Highlights

- Completed NCEP contribution to Weather Research and Forecast (WRF) Model
- Established Joint Center for Satellite Data Assimilation
- Made Real Time Ensemble Model Forecast data available to field
- Began routine operations of a global ocean data assimilation system to support seasonal forecasts

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FY 2001 Milestone Summary

Capitalize on Scientific & Technological Advances – Highlights

- Implemented finer resolution of the global climate model
- Incorporated moisture data from Advanced Microwave Sounding Unit into NCEP models
- Awarded 4 CSTAR and 4 COMET Grants

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FY 2001 Milestone Summary

Exercise Global Leadership - Highlights

- Completed bilateral agreements with Saudi Arabia, Singapore, and Vietnam
- Installed EMWIN receivers in Chuuk, Yap, and Palau 
- Conducted Hurricane Awareness Tour to Caribbean Countries and Mexico 

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FY 2001 Milestone Summary

Exercise Global Leadership - Highlights

- Established new river and flood forecast centers in El Salvador, Honduras and Nicaragua
- Trained 21 meteorologists from Latin America, Africa, and Pacific Islands NWS International Training Desks at NCEP and Pacific Region
- Began producing 5 day extreme weather outlooks for Africa

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FY 2001 Milestone Summary

Change the NWS Organizational Culture – Highlights

- Trained 56 NWS Diversity Change agents
- Provided WSR-88D Distance Learning Operations training for 83 new field forecasters
- Provided team training to 270 employees in 11 field offices
- NWS Regions began best practice reviews
- Participated in the NOAA Graduate Science Program
- Developed an exit interview

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FY 2001 Milestone Summary

Manage NWS Resources - Highlights

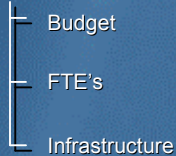
- Successful installation of Phase II of the IBM Supercomputer
- Established executive level boards for Finance, Operations, Human Resources, and Science and Technology
- Completed transition of regional networks AT&T FTS 2000 to MCI FTS 2001
- Completed plan to implement cost accounting in all regions

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FY 2001 Milestone Summary – Not Complete

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Milestone

Status

Establish a minority mentoring program to identify career advancement opportunities (2nd)

Postponed. Awaiting guidance from NOAA.

Host NWS EEO Conference (3rd)

Postponed -- travel cap limitation. Rescheduled for 4th Qtr. FY02

Review and modify existing process for creating and implementing new climate weather products (3rd)

Expanded to a NWS-wide review of all products.

Refurbish 6 NOAA Weather Radio stations in existing network (3rd)

Delayed – equipment cap. Will be completed in FY02.

Complete 4 “Warning Decision Making” Workshops for 100 forecasters (4th)

3 workshops completed, 4th postponed -- travel cap. 4th workshop held in Oct. 2001.



FY 2001 Milestone Summary – Not Complete

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Milestone

Status

Install 50 new ORPG in the NEXRAD network (4th)

7 units deployed FY01; By Feb. 22 96 of 158 units will be deployed. Expect full deployment 4th Qtr. FY02

Implement new Digital Storm-total Precipitation product (4th)

Awaiting full deployment of NEXRAD ORPGs

Procure 143 new ASOS dewpoint sensors (4th)

Limited production 22 unit delivery Dec/Jan; Procurement will be complete 2nd Qtr. FY02.

Consolidate climate forecast service needs through regional assessment analysis (4th)

Deferred to FY02.

Increase representation of women, minorities and people with disabilities by 1% (4th)

Status Quo 24%

Provide formal review of NOAA Cultural Audit (4th)

Awaiting receipt of NOAA audit.



FY 2002 1st Quarter Milestone Summary

16 of 16 Milestones Completed

Deliver Better Products and Services-Highlights

- Implemented Day 3 Convective Outlook, by issuing the text and probability graphic via AWIPS
- Completed agreement with the U.S. Air Force to relocate NEXRAD Radar from Keesler Air Force Base to Jackson, Mississippi
- Held a workshop for the Weather Risk Management Industry
- Began operational use of new integrated icing product

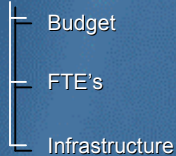


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FY 2002 1st Quarter Milestone Summary

Deliver Better Products and Services-Highlights

- Began verification program at Central Weather Support Units
- Updated policy for issuing winter weather warnings
- Implemented Flood Potential Outlook



Capitalize on Scientific and Technological Advances-Highlights

- Implemented 12 km Eta forecast system for North American Domain

Manage NWS Resources-Highlights

- Began A-76 study for the NWS Telecommunications Gateway

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FY 01 and FY02 Accomplishments

Warning and Forecast – Highlights

- Accurate Forecasts for Spring Flooding in the Upper Midwest
- Critical Support and Forecasts for Florida Drought and Wild Fires
- Advanced Warnings for Record Number of Midwest Tornadoes
- Advanced Warnings for Record Flooding in Texas and Louisiana during Tropical Storm Allison
- Accurate 2001 Hurricane Season Outlook
- Accurate Forecasting of Hurricane Michelle Prevents Unnecessary Evacuations
- Advanced Warning for Buffalo, NY Snow Event

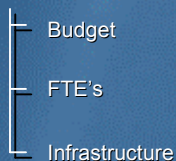


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FY 01 and FY02 Accomplishments

Organizational/Programmatic – Highlights

- Received Straight A's from Government Executive Magazine Review
- Promoted Teamwork Among FMCs
- Silver Medal for Web Radar Team
- Transitioned CONUS ASOS Augmentation to FAA
- Initiated National Academy of Science Review of Role of the Public and Private Sector in Weather Forecasting
- Conducted a number of successful weather safety outreach efforts, including campaigns with PGA and NASCAR
 - *Launched Lightning Awareness Campaign: "Lightning Kills, Play it Safe"*
- Issued new Wind Chill Temperature Index
- Renamed Pacific Tsunami Warning Center for Former Pacific Region Director
- Tenth Anniversary of WSR-88D Hotline Services

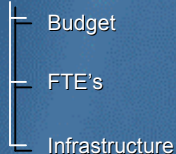


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Management Issues and Challenges

- Office closures
- Location for Backup NWS Supercomputer

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OIG & GAO Reports

OIG

- USAID
- WFO Inspections
- National Data Buoy Center

GAO

- U.S. Assistance to Micronesia and Marshall Islands

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Resources-Budget

FY 2001 Obligations – Within 1.2% of Plan (Dollars in Thousands)

	<i>Plan</i>	<i>Actual</i>	<i>Variance</i>	<i>Percent</i>
ORF	\$585,995.0	\$580,008.9	-\$5,986.1	99.0%
PAC	\$59,721.4	\$57,739.6	-\$1,981.8	96.7%
Total	\$645,716.4	\$637,748.5	-\$7,967.9	98.8%

- Equipment budget cap
- FTS accruals/transition

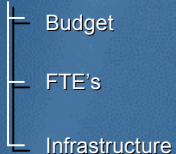
- Evansville Radar Procurement

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Management Challenges, Issues, Problems

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Resources--FTEs

FY 2001 FTE Utilization – Within less than 1% of Plan

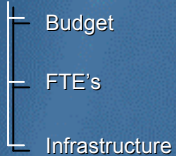
	<i>Plan</i>	<i>Actual</i>	<i>Delta</i>
ORF	4,519.7	4,484.7	35
PAC	40.0	37.1	2.9
Reimbursables	141.5	215.7	(74.2)
Total Appropriations	4,703.3	4,743.2	(40.0)

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Resources— Critical Infrastructure

NOAA/NWS Review Identified 162 Critical Infrastructure Assets

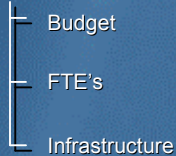
- **Vulnerability Assessments 90% Complete**
 - *145 Completed*
 - *Reviewing alternatives to accomplish remaining 17*
 - outsourcing
 - in-house teams
- **Contingency and Disaster Recovery Plan**
 - *Developed for All Critical Assets*
 - *140 Reviewed for compliance*
 - *22 Scheduled for review FY02*

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Construction Issues

Action Item
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Issues

- Pace of Alaska Facilities Modernization and HVAC retrofits

EEO Accomplishments

EEO Accomplishments

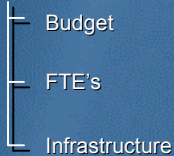
- 1st Native Alaskan promoted to Meteorological Technician
- NWS employees participated in 2002 Workforce Recruitment Program
- WCM Initiatives Team presented briefings to three Regional WCM Conferences

Action Item
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MSI Accomplishments

Minority Serving Institutions (MSI)

- 2 MSI Faculty Members Appointed to NOAA Faculty Research Program
- Participated in Society for the Advancement of Chicanos and Native Americans in Science Conference
- Howard University Awarded the Atmospheric Sciences Grant based on NWS Recommendation
- Participated in Bi-annual Expanding Opportunities in Oceanic and Atmospheric Sciences Conference
- National Data Buoy Center Donated Boat to Jackson State University

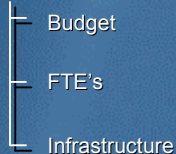


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Diversity Accomplishments

Diversity Accomplishments

- Began Weekly Publishing of NWS Focus
- Provided Special NOAA Weather Radios to Hearing Impaired Families
- Telework Program Pilot
- Established Diversity Network Email Listserver
- Completed SFA Activities

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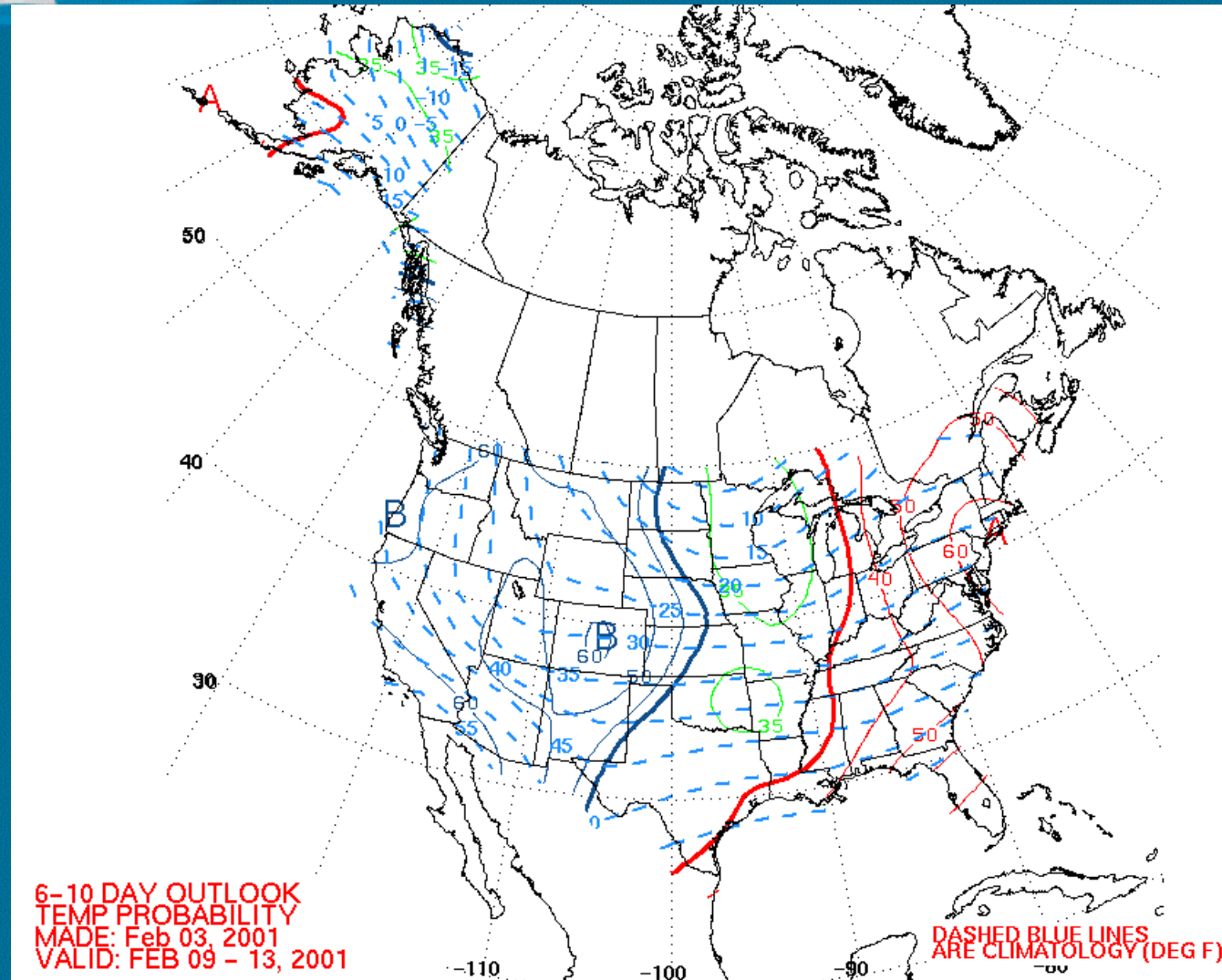
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6-10 Day Probabilistic Outlook



“Tsunami Ready”

- 1st Tsunami Ready Community: Ocean Shores, WA
- Promotes tsunami hazard readiness among Federal, state and local emergency management agencies, the public, and the NWS tsunami warning system.



Collaborative Convective Forecast Product

CCFP - Netscape
File Edit View Go Communicator Help
Bookmarks Location: <http://www.awc-kc.noaa.gov/ccfp/>

AWC
CCFP Guide:
[CCFP Final Forecast](#)
[CCFP +](#)
[Feedback](#)

AVIATION WEATHER CENTER

Collaborative Convective Forecast Product

NEW CCFP 24x7 Operations NEW

On Monday June 18, 2001 at 0300 UTC the Aviation Weather Center began 24 hour 7 day a week production of the CCFP. The CCFP is now issued 6 times daily at four-hour intervals starting 0300 UTC. This new production adds two new forecast packages issued at 0700 UTC and 1100 UTC and an additional 6-hour forecast issued at 0300 UTC. The following table describes the new production times:

CCFP Operational Production Times

CCFP Package	Preliminary Issued	Collaboration Session	CCFP Issued	Valid Times
0300 UTC	0145 UTC	0200-0230 UTC	0245 UTC	0500, 0700, 0900 UTC
0700 UTC	0545 UTC	0600-0630 UTC	0645 UTC	0900, 1100, 1300 UTC
1100 UTC	0945 UTC	1000-1030 UTC	1045 UTC	1300, 1500, 1700 UTC
1500 UTC	1345 UTC	1400-1430 UTC	1445 UTC	1700, 1900, 2100 UTC
1900 UTC	1745 UTC	1800-1830 UTC	1845 UTC	2100, 2300, 0100 UTC
2300 UTC	2145 UTC	2200-2230 UTC	2245 UTC	0100, 0300, 0500 UTC

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[\[CCFP Final\]](#) [\[CCFP+\]](#) [\[Feedback\]](#)

DoC **NOAA** **NWS** **NCEP**

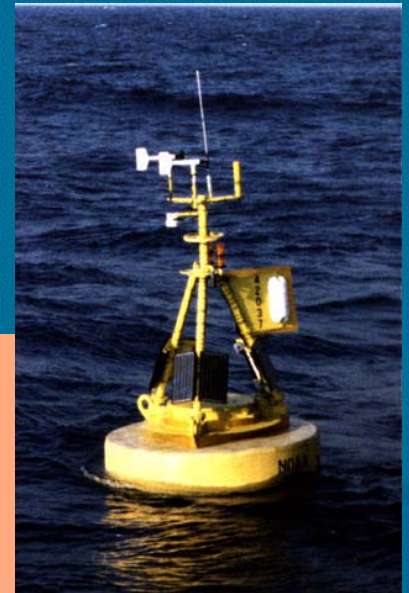
Page Author: C. Wallace 06/16/2000 Modified: 06/18/2001
Aviation Weather Center, Kansas City, Missouri

Document: Done

<http://www.awc-kc.noaa.gov/ccfp/>

Alaska Data Buoys

- First Alaska Earmark buoy deployed on 7/11/01
- Buoy 2 deployed 8/04/01
- Anticipated deployment:
 - *Buoys 3,4,5 by early Summer 2002*
 - *Buoys 6,7 by early Summer 2003*

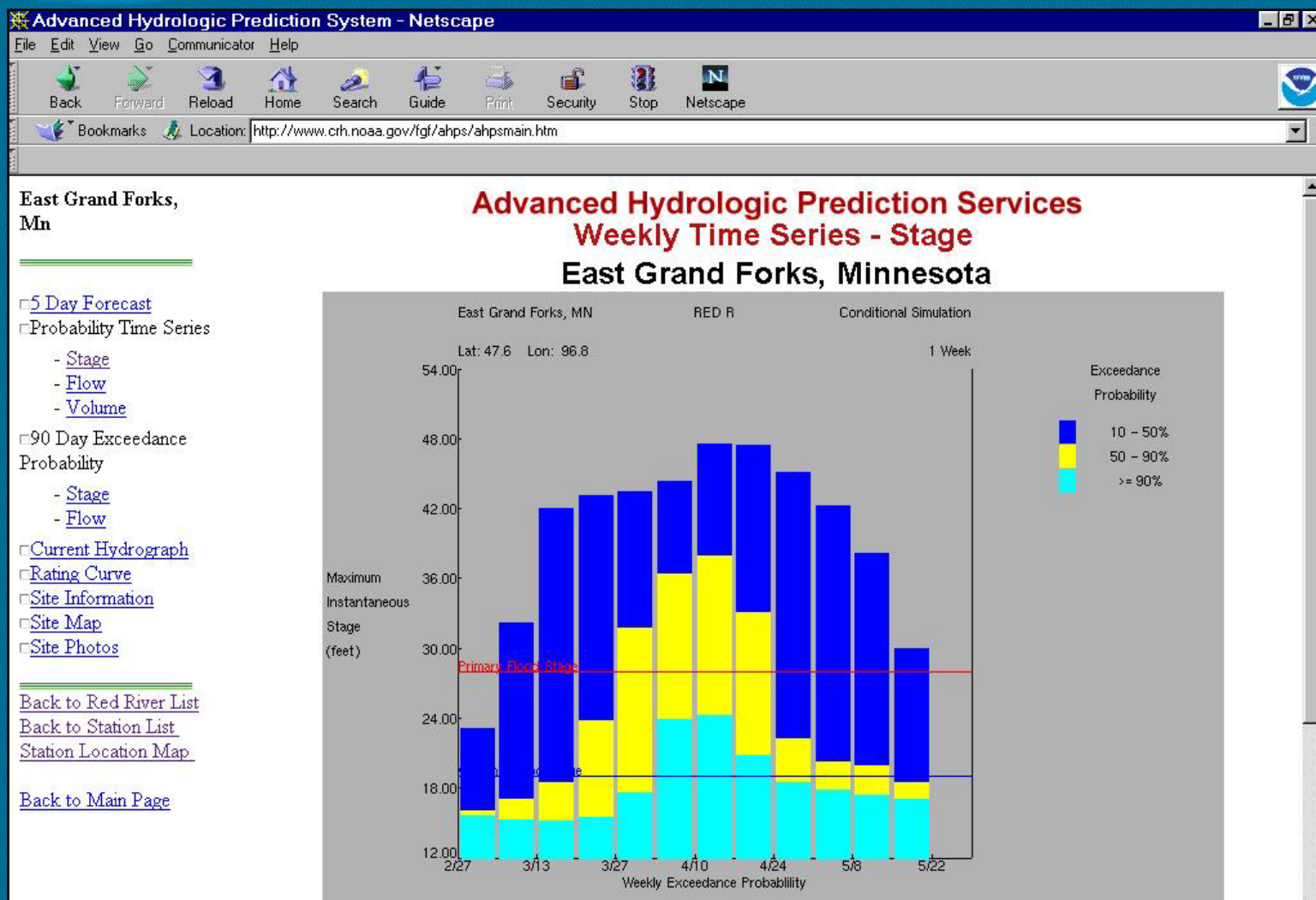


NWR Voice Transmission

- Contract Awarded August 9, 2001
- Signed \$633K contract with Siemens/Speechworks team
- Implementation will begin early in 2002

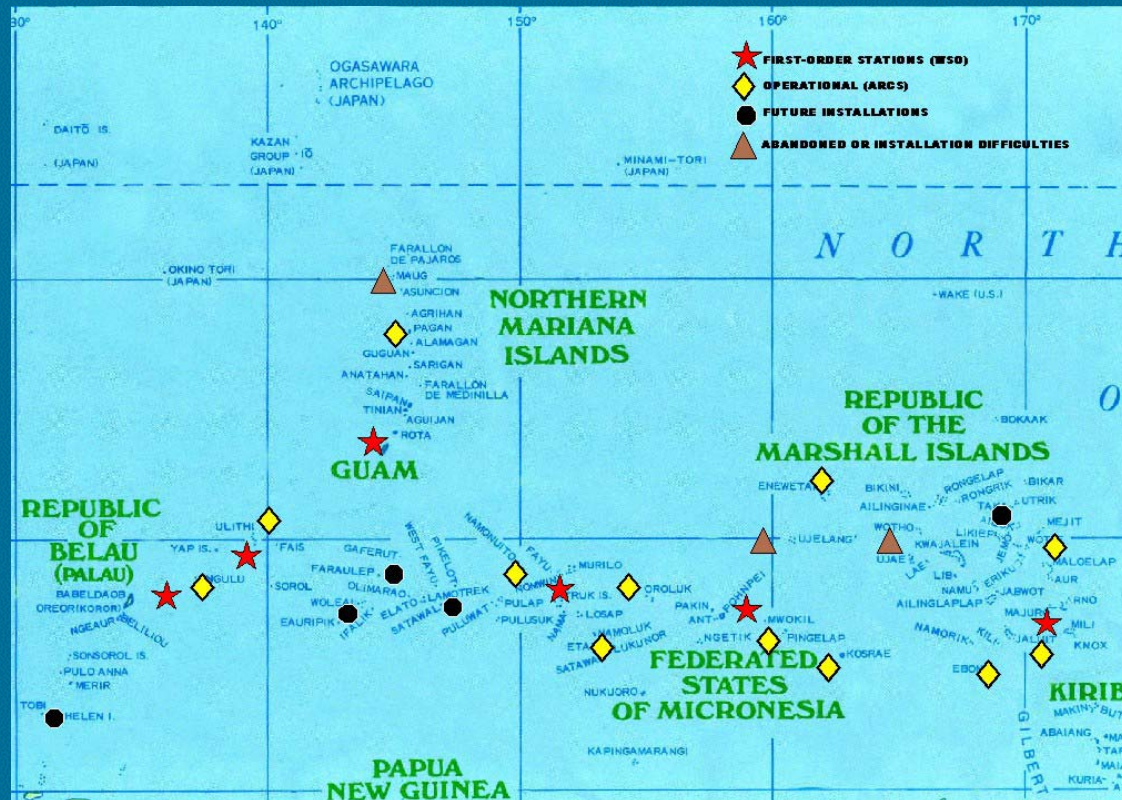


AHPS Probability Forecast Product



EMWIN Receivers

- EMWIN Receivers Now At All NWS Stations in Pacific
- EMWIN Receivers Are Alternate Source of Weather Forecasts/Warnings

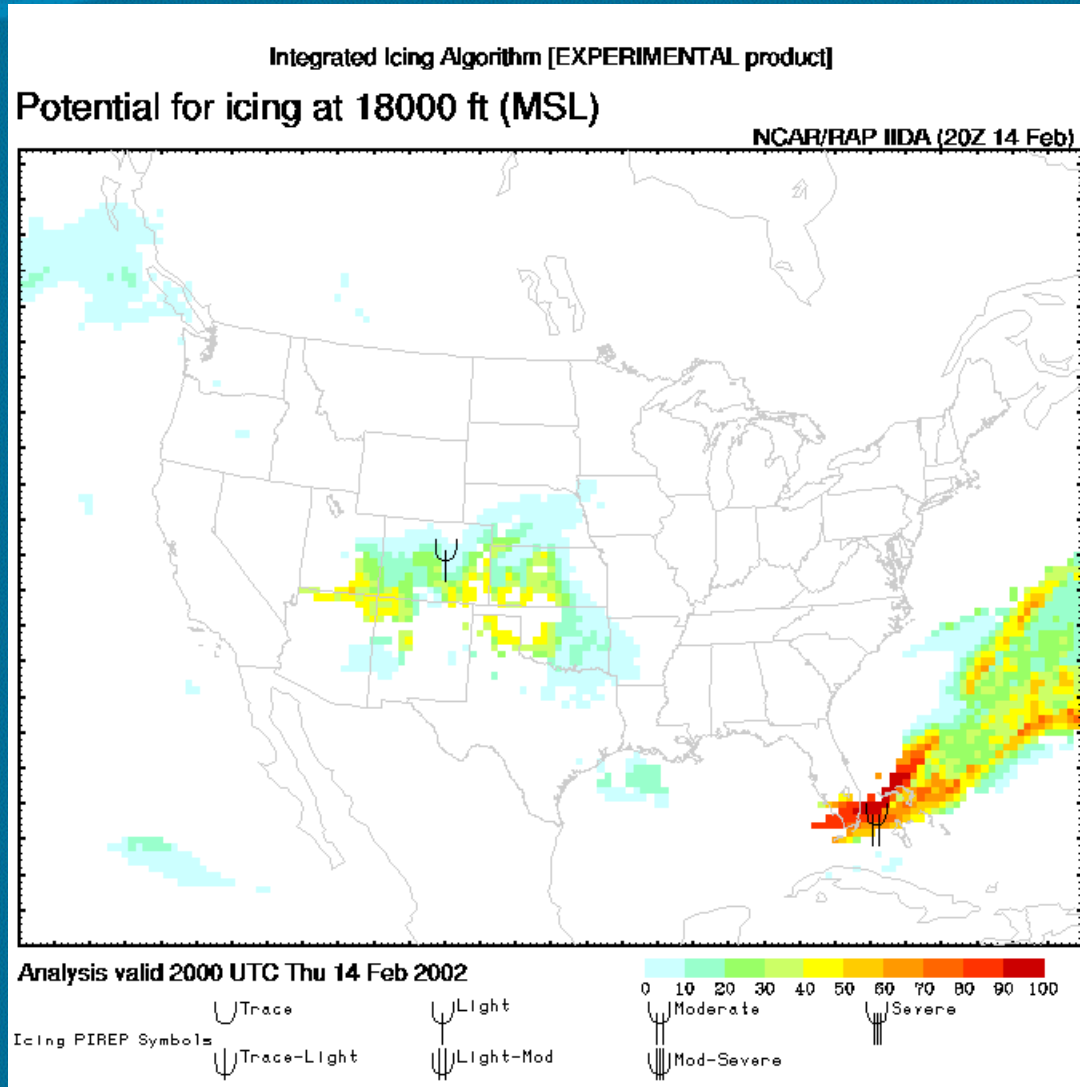


Caribbean Hurricane Awareness Tour (CHAT)

- Tremendous success in outreach and public education
- Nearly 7,000 people toured NOAA P-3 “Hurricane Hunter” plane
- Stops included: Villahermosa, Cancun, Mexico; Kingston, Jamaica; Aguadilla, Puerto Rico; St. Croix, U.S. Virgin Islands

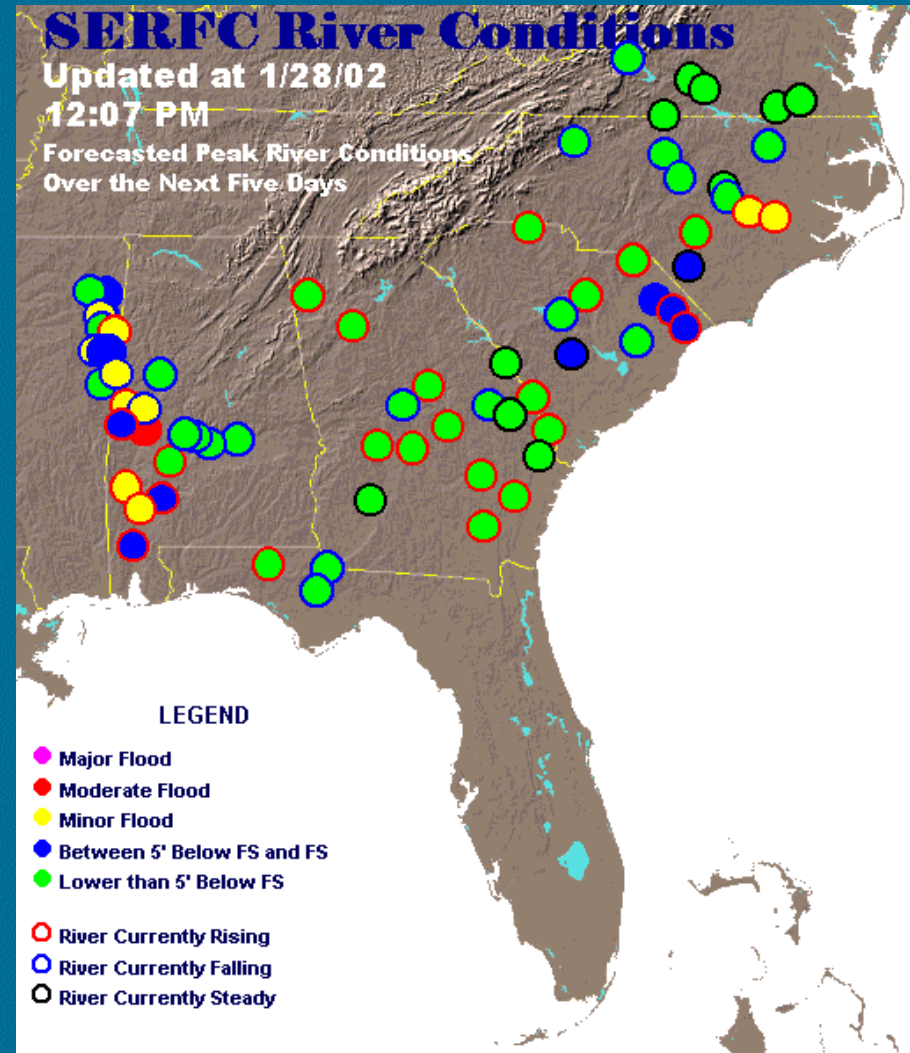


Integrated Icing Product



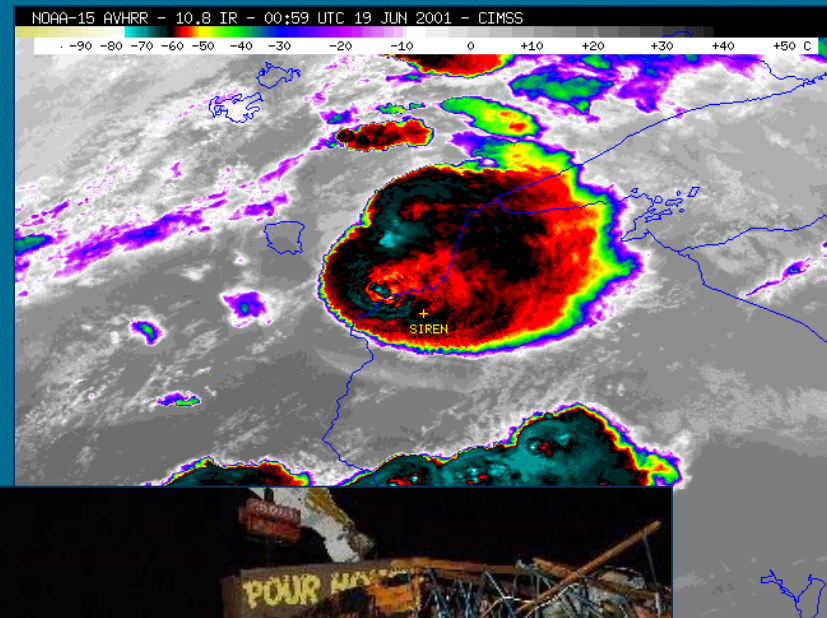
Flood Potential Outlook

- 5-day outlook declared operational November 1
- Identifies areas at risk of significant river flooding
- On average, every year in the U.S. :
 - 100 deaths are caused by flooding
 - Nearly \$4 billion in damages result from flooding



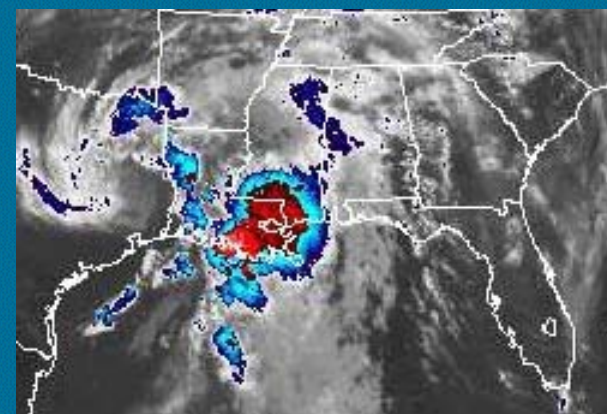
Siren, Wisconsin Tornado

- Occurred Monday, June 18, 9:20 p.m. EDT
- 34 minute lead time before tornado touched down
- 49 minutes before tornado moved through Siren
- Damage
 - 3 deaths,
 - 8 serious injuries;
 - At least 100 homes/businesses destroyed or seriously damaged



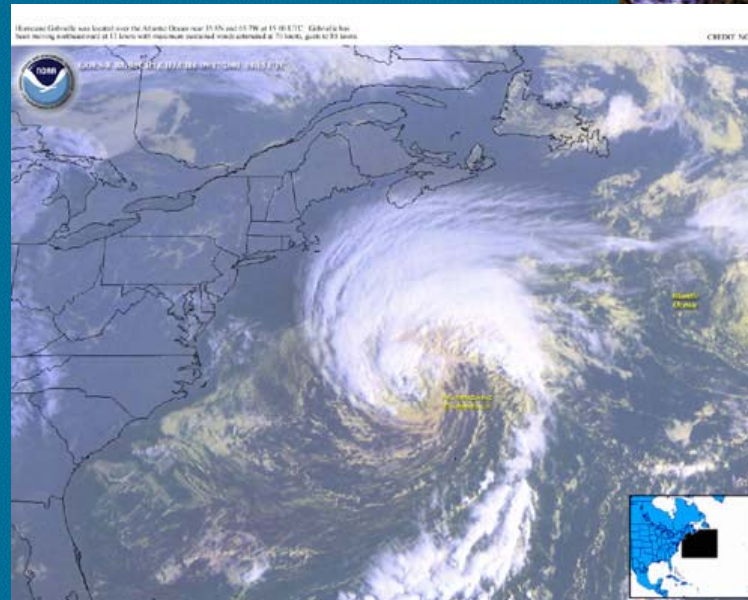
Tropical Storm Allison

- June 5-18
 - 36.99 inches in Houston
 - 39 flash flood events
 - 100% accuracy for flash flood warnings
 - 9% false alarm rate
 - Average lead time 40 minutes
- Damage estimates in excess of \$5 billion
- 41 deaths
- “WFO Houston never let its guard down... The office did an excellent job of conveying the severity and urgency of the event.”
—KPRC-TV



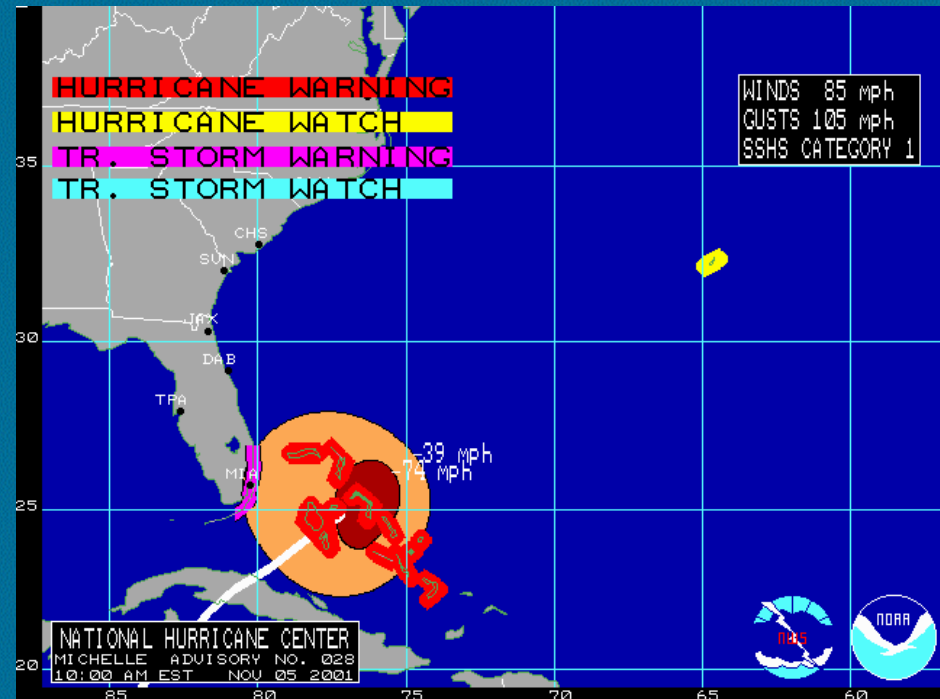
Issued Updated Hurricane Outlook

- August 9: Experts changed outlook from normal to slightly above normal activity:
 - *9-12 tropical storms*
 - *6-8 of those storms reach hurricane strength*
 - *2-4 hurricanes classified as major*
- Season to date:
 - *15 tropical storms*
 - *9 hurricanes*
 - *4 major hurricanes*



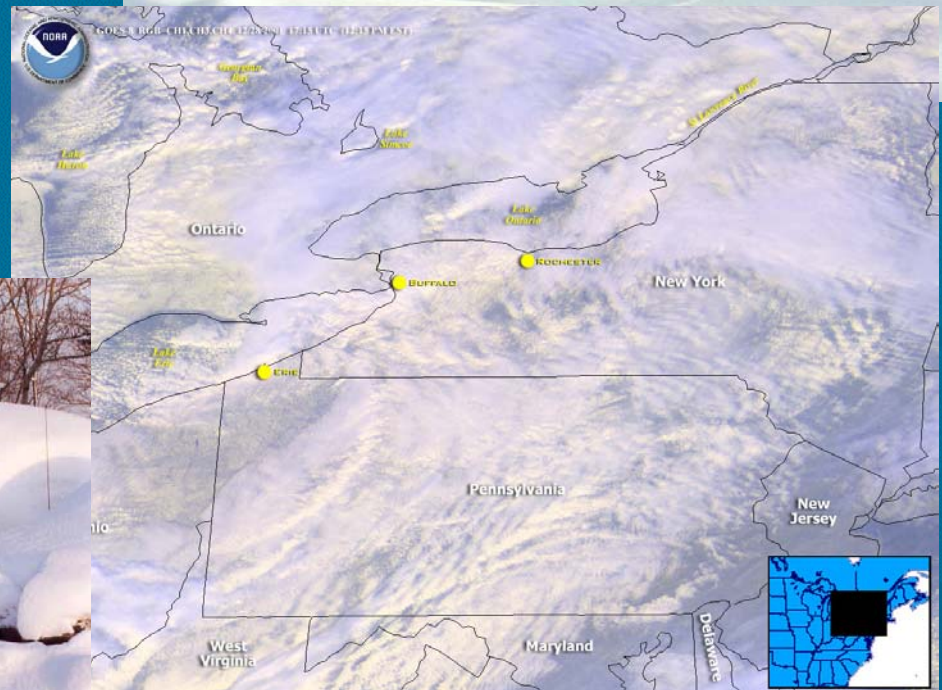
Hurricane Michelle

- Category 4 Hurricane
- Accurate forecasting prevented massive, unnecessary evacuations
- “Accurately predicting its movement and intensity was a great asset to emergency managers, business and industry, and others preparing for this storm.”
 - *Max Mayfield, Director National Hurricane Center*



Buffalo, New York Snow Event

- December 24-30
- 81.6 inches fell in Buffalo
- 127 inches fell in Montague, NY
- 19 hour warning lead time



NWS Received Straight A's

“After a stormy 10-year modernization, the National Weather Service is reaping the benefits of new technology, better facilities and a restructured workforce.”

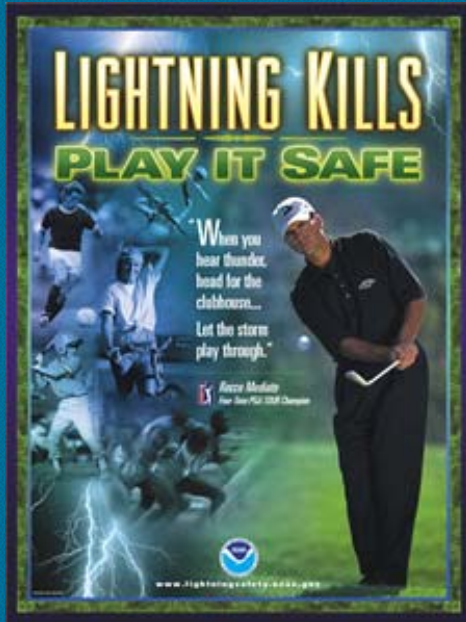
- *Total of 27 Agencies Evaluated*
- *1st Ever to Receive All A's*



2001 REPORT CARD	Agency Grade	Managing for Results	Financial Management	Human Resources Management	Information Management	Physical Assets Management	
National Weather Service	A	A	A	A	A	A	Results-focused management coordinated throughout agency and across functions to achieve mission success.
Postal Service	A-	A	A	C	B	A	Management is focused on results and coordinated throughout agency, but hampered by serious problems with human resources and communications.
Administration for Children and Families	B	B	B	B	B	N/A	Agency with strong service ethos rising to the challenge of managing for results in a devolved, welfare reform environment.
NASA	B	B	C	B	B	B	Strong "cando" culture aimed at technical excellence is marred by weakness in mission definition and measurement of outcomes.
Bureau of Consular Affairs	C	C	C	C	B	N/A	Agency benefited from inspired leadership and increased funding, but lacks systematic practices needed to sustain momentum.
Forest Service	C	C	D	B	C	C	Conflicting missions and decentralized systems have created systemic weaknesses that management is committed to addressing.
Bureau of Indian Affairs	D	D	C	C	D	D	Long-standing management deficiencies acknowledged, but improvements difficult and slow in high pressure/low resource environment.

Lightning Awareness Week

- Lightning Public Awareness Campaign Launched: “Lightning Kills, Play it Safe”
 - Lower lightning death and injury rates in the United States
 - Elevate awareness of the risk of being struck by lightning
 - In 2000, 51 people fatally struck by lightning, compared to 37 flood fatalities, 29 tornado deaths.
 - NWS and Professional Golfing Association Tour champions Rocco Mediate and Vijay Singh are teaming up to promote lightning safety.



New Wind Chill Index



Wind Chill Chart



		Temperature (°F)																		
		Calm	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
Wind (mph)	5	36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63	
	10	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72	
	15	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77	
	20	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81	
	25	29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84	
	30	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87	
	35	28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89	
	40	27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91	
	45	26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93	
	50	26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95	
	55	25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97	
	60	25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98	

Frostbite Times  30 minutes  10 minutes  5 minutes

$$\text{Wind Chill (°F)} = 35.74 + 0.6215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16})$$

Where, T= Air Temperature (°F) V= Wind Speed (mph)

Effective 11/01/01

NOAA Faculty Research Program

- Dr. Linda Hayden from Elizabeth City State University joined Wakefield WFO
- Dr. George Coleman joined Jacksonville WFO
- First participants in NOAA Faculty Research Program

